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[Continued on next page]

(54) Title: METHOD FOR COOLING IN DISTILLATION AND POLYMERISATION PROCESS BY ABSORPTION REFRIGERATION

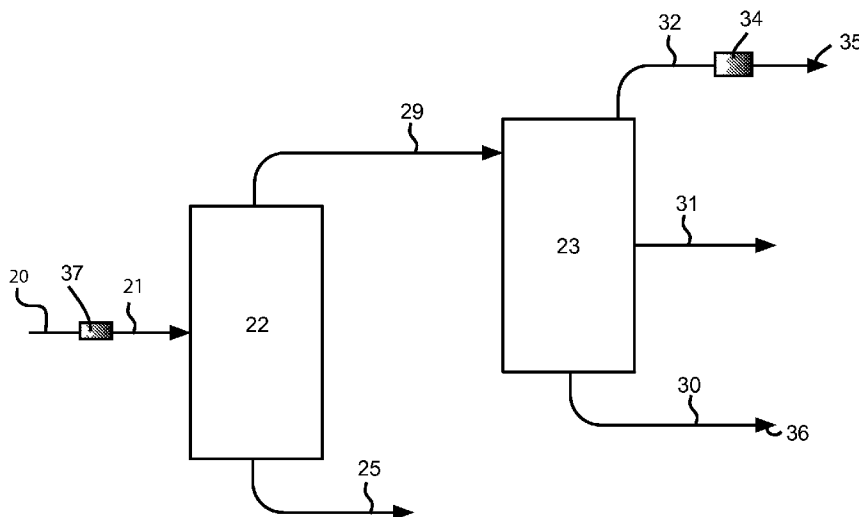


FIG. 2A

(57) Abstract: The present invention relates generally to olefin polymerization. In particular, the present relates to a process for the separation of a hydrocarbon-containing feed stream (20) comprising the steps of: (a) optionally cooling said hydrocarbon-containing feed stream (20) using an absorption refrigeration cycle (37), (b) introducing said feed stream (20) into a first distillation zone (22) for subjecting said feed (20) to distillation conditions adapted to remove b1) a bottom stream (25) comprising co-monomer, and b2) an overhead stream (29) comprising hydrocarbon diluent, olefin monomer and further components such as H₂, N₂, O₂, CO, CO₂, and formaldehyde, and (c) introducing the overhead stream (29) of step b) in a second distillation zone (23) for subjecting said stream (29) to distillation

conditions adapted to remove c1) a bottom stream (30) comprising substantially olefin-free hydrocarbon diluent, c2) a side stream (31) comprising hydrocarbon diluent, and c3) an overhead vapor stream (32) comprising olefin monomer, diluent and further components such as formaldehyde, H₂, N₂, O₂, CO and CO₂, and (d) cooling the temperature of said removed overhead vapor stream (32) using an absorption refrigeration cycle (34) prior to separating (35) said olefin monomer from said diluent in said overhead vapor stream (32). Said invention also relates to a polyolefin production process and to a polyolefin production unit.

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A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC.

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C08F BOID C07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and where practical search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	US 2 769 309 A (IRVINE ROBERT L) 6 November 1956 (1956-11-06) abstract; figures column 1, line 18 - line 47 column 2, line 16 - line 44 column 2, line 54 - line 67 column 4, line 19 - line 43 -----	1-11
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Further documents are listed in the continuation of Box C

See patent family annex

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Date of the actual completion of the international search 4 February 2009	Date of mailing of the international search report 11/02/2009
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International application No

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^Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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